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The dispute involving a section of the London printing industry continues to prevent the normal publication of FLIGHT, and this limited-circulation free newsletter service is accordingly being temporarily substituted. Periods covered by direct subscription will be extended.

## HELICOPTERS - THE NEXT STEP

FORTY-THREE years ago Louis Bréguet first lifted himself in his incredible helicopter. Though another Frenchman — Paul Cornu — had to some extent anticipated him by flying an unmanned machine, Bréguet's effort stands as the first milestone on the long road of rotating-wing achievement. That inherent defects still persist in a disconcerting degree, and that the twin goals of safety and economy even yet elude the search, must be frankly admitted. But the way ahead is brighter and the ground already travelled is marked by triumphs as well as by tragedies and disappointments. The industrious whirr of the "egg-beater" is heard in many lands: it delivers in both senses of the word; it is the key to new terrains and new activities; it is here to stay.

While America, and, to a lesser extent, France, strikes out along courageous new lines of technical development, British efforts (understandably, perhaps, in view of our economic difficulties) are less venturesome, though our contributions to the present state of the helicopter art are everywhere recognized. Chiefly we lack experimental machines with jet-driven rotors. In the jet drive lie the solutions to major problems — those of torque reaction on single-rotor helicopters, drive transmission, and power-plant weight and complication. Practical configurations of rotor-jet drives have been classified by Mr. Stepan, who was associated with the pioneer Doblhoff experiments in Austria, and now continues his work with the Fairey Company. The systems he divides into pure-jet rotors and gyroplane rotors with jet assistance for starting and landing. The pure-jet solutions include the rotor with tip-located power plants (rockets, ramjets, pulsejets, ducted pulsejets, or turbojets) and rotor-jet systems requiring ducted blades and ducted hubs where part of the jet equipment is enclosed in the fuselage (pressure-jet systems and fuselage-enclosed gas-stream generators). Gyroplane rotors can make use of rockets or pressure jets.

These, then, are possible schemes for the future. So attractive are the advantages promised by the more practicable of them that news of definite British jet-rotor developments is now awaited with some impatience, particularly as gearing problems may delay, if not debar, existing gas turbines in their application to helicopters.

## NEWS OF THE WEEK

### Air Power in the Far East

Service air affairs in the Far East were discussed by the Under-Secretary of State for Air, Mr. Aidan Crawley, on October 16th, shortly after his return from a tour of that area. Mr. Crawley announced the formation of Far East Auxiliary squadrons, corresponding to our own R.Aux.A.F. units. R.A.F. instructors and aircraft are provided but only basic training is being given at present. Four squadrons have already been established - at Penang, Ceylon, Singapore and Hong Kong.

In Malaya, Far East Air Force was undertaking most efficiently its primary task of dropping supplies to the Army in forward areas. This was by no means a simple task, as supplies had to be dropped into tiny jungle clearings, surrounded by 200-ft trees and impenetrable undergrowth. The second task was bombing, gunning and rocketing areas of jungle under Army direction. It was difficult to obtain clear-cut evidence as to results, but the Army and Police agreed that the work was effective in keeping bandits on the move, if not so much in killing them. The R.A.F. Regiment (Malaya), with its native personnel under British officers, was doing excellent work; and Alsatian dogs were being employed to good effect.

News of the Week...

Mr. Crawley had visited Iwakuni, where parts of two Sunderland squadrons had been formed into one unit with six aircraft and were at the disposal of the U.S. Navy for operations against the North Koreans. He said that the boats were doing a first-class job - as valuable and important as Coastal Command's war-time task - and had earned the respect and commendation of the Americans. They had made 51 sorties in 70 days - many of the trips being of 14-hour duration. During their reconnaissance flights the Sunderlands had spotted only American submarines, and it seemed that the enemy were not using under-water craft.

The Australian Mustang pilots, who had made over 1,600 sorties at the time of Mr. Crawley's visit, had also built up a wonderful reputation. From General MacArthur and General Stratemeyer, America's air commander in the Far East, the Under-Secretary learned that the air arm in Korea had been able to play a larger and more important part than had originally been expected (the reverse of the general impression in this country). The tactical air force, by destroying the enemy's lines of communications and supply, had enabled General MacArthur to spring his successful counter-attack with extremely small reserves. Jet fighters had proved most effective for ground attack, despite the poor weather conditions. Many of the jets were operating from Japan and the pilots often made the out-and-return flights above cloud, descending to the target at their own discretion. Selected targets might be missed, but alternatives could nearly always be found and attacked. Of 139 aircraft lost, the enemy had shot down only 81 United Nations fighters. Fifty-two men had been killed and 56 wounded, two were prisoners and 65 were missing - extraordinarily light losses for the results achieved.

Mr. Crawley made particular mention of the effectiveness of the napalm anti-tank fire-bomb; 700,000 gallons of petrol jelly had been dropped in this form up to the end of September. The destructive area - in the form of an ellipse some 25yd by 10yd - of this bomb was such that even a near miss killed the tank crew and a direct hit actually melted the tank.

General MacArthur had expressed warm appreciation of the British effort in Korea; though small numerically, the British forces had done, and were doing, splendid work.

## Setting a Good Example

The United States Government has now apologised to the U.S.S.R. for the attack made by two Shooting Stars on an airfield 100 km on the Russian side of the Korean frontier. It is admitted that the attack was the result of "navigational errors and poor judgment", the commander of the group concerned has been relieved of his post, and disciplinary action is to be taken against the two pilots. Also, compensation for the damage inflicted is being offered, although the Russians had not demanded it in their protest.

The apology is contained in a letter from Mr. Warren Austin, U.S. permanent delegate to the United Nations, to Mr. Trygve Lie, Secretary-General. When the Soviet protest was made to the U.S. Embassy in Moscow its acceptance was refused on the ground that it should have been made to the United Nations.

## Anglo-American Agreements

Further important news of American interest in British gas turbines and aircraft powered by them was received last week. Following the announcement of negotiations for a licensing agreement and the co-ordination of research and development between Armstrong Siddeley Motors, Ltd., and the Wright Aeronautical Corporation (a division of Curtiss-Wright), the American company arranged a public showing of the gas-turbine units concerned - Sapphire, Python, Mamba and Double Mamba - in New York. Curtiss airscrews for high-speed aircraft were also displayed, and examples of these, it is understood, are to be sent to the U.K. under a return long-term agreement.

In addition to the above arrangements, the Curtiss-Wright Corporation are now also to enter into a somewhat similar agreement with the Bristol Aeroplane Company, although the name of one particular engine involved is not revealed.

Third of the recent announcements comes from Mr. G.T. Baker,

president of National Airlines of America. He has stated that following an examination of many British turbine-powered aircraft in company with his chief pilot he is considering ordering a pure-jet type, though there is no commitment to date. He stated: "Jet transports are not eight years away; they were here yesterday."

The several licensing agreements now existing, or under negotiation, with America and other foreign countries reflects great credit upon British engine designers and should help to smooth the way for aircraft sales. Not the least desirable feature of these arrangements is the plan for increased interchange of technical data with America.

## Turbine Technicians Wanted

Both the Minister of Supply, Mr. Strauss, and the Parliamentary Secretary to the Ministry of Education, Mr. Hardman, referred to the shortage of technicians in the gas-turbine field when they spoke at the opening - mentioned in our Newsletter last week - of the new premises at Farnborough of the School of Gas Turbine Technology. Mr. Strauss said: "I would like to draw this school to the attention of British manufacturing firms who are not aware of it or do not yet appreciate the importance of what is being taught here. While we welcome our overseas friends and are very willing to give them all possible information about this technical subject, within the bounds of security, we are even more anxious that British industry should take advantage of the great developments in this field. We would like more students from British firms."

An unusually large and distinguished gathering was welcomed by Sir William Stanier, chairman of Power Jets (Research and Development), Ltd., and by Mr. W.E.P. Johnson, managing director, at the opening ceremony. Already a three-weeks industrial course and a one-week special course for the Ministry of Fuel and Power have commenced in the premises, and eleven new courses, Nos. 25 to 35, have been planned. The principal of the school is Mr. D. L. Brown.

## The Dakota Accident

On Tuesday, October 17th, B.E.A. suffered a severe operating accident when Dakota G-AGIW crashed near Mill Hill, London, causing the death of 28 of its 29 occupants. Piloted by Capt. J. E. Carson, the aircraft, bound for Renfrew, was attempting either to return to its Northolt base or to put down at Hendon - the precise circumstances will presumably emerge at the public enquiry - after one engine had failed. The machine struck high ground some nine miles from Northolt. Cloud base was given as about 1,000ft. The sole survivor was the steward, who was thrown clear. Among the victims was Capt. J. C. Wood (chief pilot, Scottish Division, B.E.A.), who earlier in the week had piloted the Marathon G-ALUB during its trials at Woodley.

Questions have since been asked in the House of Commons as to why Dakotas should be allowed to operate in Britain at an a.u.w. of 28,000 lb (this is the "first-class airfields" figure), whereas in America the limit is 25,200 lb. Early this week B.E.A. was to make a flight with another Dakota over the course followed by the lost aircraft, so that communications might be tested. Ballasted to the same weight as G-AGIW, it was also to be submitted to one-engine-out trials over open country; a suggestion that these tests might be made over Mill Hill had caused local protests.

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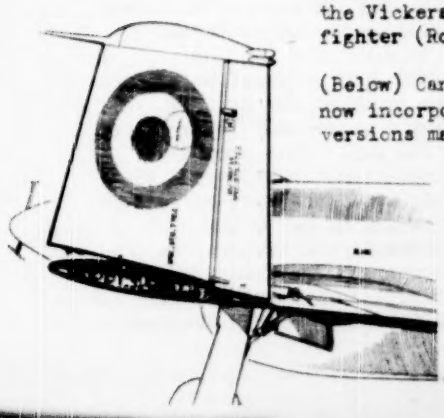
(Left) Wing - folding on the production version of the Vickers - Supermarine Attacker carrier - borne fighter (Rolls - Royce Nene), shortly to enter service.

(Below) Canadian - built D.H. Chipmunks for the R.C.A.F. now incorporate a bubble - type canopy, as shown; British versions may eventually follow suit.



News of the Week...

## Wind Tunnels and Design

Last Thursday, October 19th, Mr. R.A. Hills, B.A., A.F.R.Ae.S., presented a paper before the Royal Aeronautical Society on "The Use of Wind Tunnel Model Data in Aerodynamic Design". The lecturer outlined what a designer could expect from model tests, and pointed out some of the pitfalls. In the past, the main aircraft firms had only had low-speed tunnels at best, but some of them were now just beginning to get high-speed tunnels of reasonable size. It had been shown that many results from such tunnels at, say, Reynolds numbers between one and two million would probably be applicable to full-scale with little scale-effect correction, provided that laminar boundary-layer separations could be avoided. Means of visualizing the flow, particularly in the boundary layer, were most important in tunnels of this type, and fortunately, in the tunnels which were being built, it would be much easier to do this than in the R.A.E. high-speed tunnel. It should be emphasized that, in these new high-speed tunnels, the models would be comparatively small, if reasonably high choking Mach numbers were to be reached, and they would have to be made accurately if reliable results were to be obtained.

There was still much to learn about compressibility effects, especially on swept-wing designs, and there was no doubt that the behaviour of full-scale aircraft would not always work out as predicted from model tests. A good beginning had been made, and it seemed that the large amount of effort put into wind tunnel model testing would be justified. In addition to model test work on actual aircraft designs, wind tunnels had to deal with the need both for systematic data and fundamental work to extend knowledge of aerodynamic details. This work was of great importance if model tests were to be used correctly, and if designers were to be provided with information for future designs.

## Italian-built Thunderjets?

"Aviation Week" forecasts that "an Italian manufacturer, reportedly Fiat, is due to be licensed to build Republic F-84 jet fighters for use in the military assistance programme for friendly nations in Europe". Three hundred F-84 Thunderjets are said to be scheduled for shipment to Atlantic Treaty nations.

## Upper-air Phenomenon

The existence of a high-speed airstream at an altitude of about 36,000ft, passing over Buenos Aires and southern Brazil, was recently discovered during researches into the upper air by the Panair do Brasil airline. The current is stated to move from west to east at speeds between 90 and 180 m.p.h. and, it is thought, it may completely circle the southern hemisphere. This phenomenon is known to complement a similar high-altitude "jet stream" over the United States. U.S. meteorologists have found that the behaviour of the northern-hemisphere stream is unpredictable: it varies its speed considerably and has even been found to split into two separate streams. It has been charted at a latitude of 45 deg N over the U.S. Pacific coast, but by the time it has crossed the continent as far as the Mississipi valley, it may be found at 40 deg N.

## News From France

The death took place on October 9th, after a long illness, of M.Pissavy, president and general manager of the Societe Nationale de Constructions Aéronautiques du Nord.

The French Turbomeca company continues to make good progress with light gas-turbine designs. Its Credon unit - which was produced for driving auxiliaries in large aircraft - recently underwent a successful 150-hr type-test, under I.C.A.O. conditions, at a rating of 160 h.p. This company's Pimene light turbojet was tested under similar conditions in December, 1949. A larger French turbojet in the news is the S.N.E.C.M.A. Atar 101 turbojet, which recently ran for 15 hours at an increased rating of 5,290 lb.

The first of a pre-production batch of 15 Dassault 450 Ouragan jet fighters is expected to make its first flight shortly. The French Air Force has ordered 150 of these Nene-powered aircraft. Five Dassault 315 armed "colonial" transport aircraft are being delivered to French overseas units.

## "Jane's" Up-to-date

Everyone whose profession or pastime involves reference to "Jane's All the World's Aircraft" will give an appreciative welcome to the new (41st) edition* of this invaluable yearly record of aeronautical progress. Its 460-odd pages, laid out in the three-column style successfully introduced last year, contain some 800 illustrations, most of which are new, and present the latest details of the world's air forces, civil aviation, aircraft and engines. A fifth section, newly revived, is devoted to airships; and two minor, but useful, innovations are lists of recent first-flights and the major world records. Soviet secrecy has once again restricted the scope and the historical value of the Russian-aircraft section, and in illustrating the latest types Mr. Leonard Bridgman, compiler and editor, has had to rely, in most cases, on drawings of uncertain accuracy.

(*"Jane's All the World's Aircraft, 1950/51", published by Sampson Low, Marston and Co., Ltd.: three guineas net.)

## NEWS IN BRIEF

Bristol Hercules 634 engines in Vikings operated by British European Airways are now approved to run for 1,050 hours between overhauls - a period which coincides with the airframe overhaul schedule. The previous engine overhaul life was 875 hours. Hercules 634s of Airwork Vikings had already been approved for 1,000 hours.

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To stimulate interest and encourage research in gliding during the winter months, the president of the B.G.A., Viscount Kemsley, has given 100 guineas to the Association to provide cash prizes for a winter cross-country competition. The prizes, to be competed for between November 1st and February 28th, will be awarded in two classes, according to whether the gliders are launched by (1) aero-tow or by (2) winch, auto-tow or "bungey." The minimum qualifying distance in both classes is 15 miles and all flights must begin in the British Isles.

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The Helicopter Association of Great Britain is again offering an annual prize of £25 - the Cierva Memorial Prize - for the best essay or paper of a technical nature on any subject directly connected with rotating-wing aircraft. The competition is not restricted to members, nor is there any restriction as to nationality. Competitors should be under the age of 35 on December 31st, 1950, and entries must be received by March 31st next. Further details may be obtained from the Association's offices at Londonderry House, 19 Park Lane, London, W.1.

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Mr. Erasmus, the South African Minister of Defence, has announced that his Government will not now proceed with its plans to establish a flying-boat base at Diego Garcia, an atoll in the Indian Ocean. An initial party of S.A.A.F. construction engineers set off for the island earlier this month.

"A year of solid achievement", with a 33 per cent increase in orders, was reported at the Annual general meeting of Folland Aircraft, Ltd., held recently. The chairman's address stated that the bulk of the orders were for Vampire, Venom and Chipmunk wings, tailplanes for the Comets, and various Dove components, while design work for the Bristol Company was continuing. In addition to these sub-contracts, "very substantial" direct orders for development work of a highly confidential nature had been received from the Ministry of Supply.

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Teddington Controls, Ltd., announce that Mr. E.W. Still, Ph.D., B.Sc., A.C.G.I., A.M.I.Mech.E., F.R.Ae.S., has been appointed their research and development manager - a new post necessitated by the heavy development programme now in hand alongside normal production at the company's South Wales factory. Dr. Still has been with Rolls-Royce for the past 13 years and has been closely associated with automatic control units, for piston engines and gas turbines, developed by Teddington Controls for the Rolls range during that period.

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Mr. H.V. Schofield, M.C., M.I.E.E., sales director of Chloride Batteries, Ltd., said last week that the company's overall production of batteries had increased by 72 per cent since 1938. Of this output, 33 per cent went abroad, the total of direct exports from the Clifton Junction works being five times the pre-war figure. Mr. Schofield was speaking at the Motor Show "Exide luncheon", now revived for the first time since the war.

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According to the "Financial Times" indices, though aircraft shares have now recovered from the setback due to the cancellation of orders for military transports, they are still slightly below the values ruling at the end of 1949. It is expected that the recent big rise in Fairey shares, consequent upon the declaration of a 25 per cent dividend, will accelerate the upward trend.

## CIVIL AVIATION NEWS

### B.E.A. Tests the Marathon

As reported briefly in our last Newsletter, B.E.A. technicians conducted take-off and landing tests with the Handley Page Marathon at Woodley airfield last week, to determine with what margin the aircraft could operate out of the Scilly Isles. The runways at Woodley were marked off at 540, 560 and 630 yd to simulate those of the Scilly airfield. Although the Marathon is authorized for an a.u.w. of 18,000 lb, B.E.A. considers that 15,000 lb will cover the intended commitment of one Scillies flight weekly. The aircraft used was G-ALUB, which has just returned from a 19,000-mile demonstration tour of the African continent; the tests were said by B.E.A. to have been quite satisfactory.

### Paris Airworthiness Conference

Under the auspices of I.C.A.O., a meeting was recently held in Paris to discuss the modernization of performance requirements for present and future civil aircraft. Designed to further international agreement on this controversial subject, it was attended by representatives of 12 countries.

With a number of small adjustments, the British proposals on performance margins, which take particularly accurate account of such variables as temperature and differences in engine power, were generally agreed upon. A further United Kingdom proposal to relate take-off path more exactly to such factors as length of runway and the presence of nearby obstacles was adopted, but it was agreed not to make any substantial changes in take-off requirements until further data had been obtained. In view of the lack of basic data, no attempt was made to rationalize landing requirements.

On the subject - hitherto strongly opposed - of a Category C for transport aircraft which cannot meet the rigorous requirements of Category A, all attending States, with the exception of Belgium, agreed to establish Category C. The provisions are to be that stalling speeds shall not exceed 65 m.p.h. and that weight shall not be greater than 15,000 lb. To provide for engine failure during take-off and initial climb, flights will be limited to V.F.R. until the aircraft reaches the operating height of its particular route configuration.

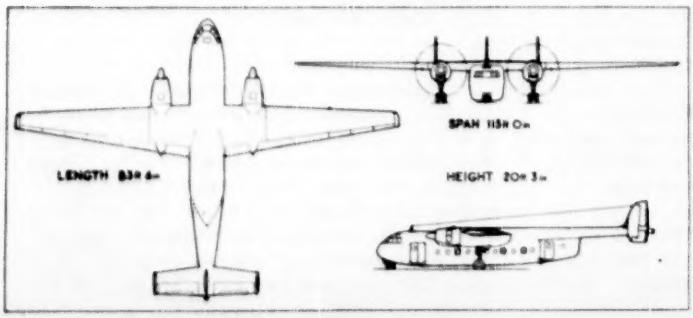
### Scandinavians' First Scandia

The first of SAAB's promising Scandia medium airliners is now reported to be ready for delivery to the Swedish A.B.A. component of S.A.S. The delivery date has been somewhat delayed by the factory's switch-over to increased fighter production. Large-scale expansion of SAAB's plant is now reported to be imminent.

The company has denied reports that negotiations for Italian construction of the Scandia are nearing completion.

### Airspeed's New Freighter

Retaining much of the attractive appearance and, in fact, many of the actual components of the Airspeed Ambassador, is the new AS-67 project, whose lines and dimensions are revealed in the accompanying G.A. drawing. Basically a civil freighter offering ample and easily accessible hold-space, the AS-67 may also be used for passenger-carrying and should be economical on both short and long ranges. Powered by two Centaurus 661s, the aircraft has a full-tank still-air range of 3,400 miles with a payload of 3,600 lb. Normal a.u.w. is 54,000lb, but at its overload weight (60,000lb) 10,000 lb of payload can be carried for 3,100 miles. At 10,000 ft maximum speed in weak mixture is estimated at 257 m.p.h.; 237 m.p.h. should be obtainable when cruising on 63 per cent METO power.




The manufacturers state that the possibility of powering the machine with turboprops has been considered in the design and either four Rolls-Royce Darts or two Armstrong-Siddeley Double Mambas may be fitted. Normal wing loading is 45 lb/sq ft.

Civil Aviation News...

## BREVITIES

Air France's inaugural flight between Montreal and Paris was preceded by the announcement that the company had concluded an inter-line fares agreement with T.C.A. and C.P.A. A Canadian passenger buying a ticket for any point in the world served by the three companies can now use one or all of the lines to reach his destination.

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Following a report that a B.O.A.C. Stratocruiser had made take-off tests at Prestwick, the M.C.A. states that, in consultation with the Corporation, it is carrying out an investigation to determine the minimum runway length needed to enable a Stratocruiser to operate at its new maximum a.u.w. of 145,800 lb at various airfields "where such loading is commercially desirable and practicable."

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Civil aircraft taking part in the Korean air lift helped to carry what must be one of the largest items of freight ever transported by air. An aluminium bridge weighing 256 tons and approximately 200 metres long was flown from the United States to the airport of Kimpo; the bridge and the engineers required to erect it were carried by some 70 aircraft and the whole operation was completed in three days.

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On returning from his recent 19,000-mile tour of South America and the Caribbean area, the Parliamentary Secretary to the M.C.A., Mr. Frank Beswick, criticized the popular practise of offering inducements to air travellers. He pointed out that although rates are internationally standardized, many companies are giving away cigarettes, wines, spirits, fancy hats and handbags in addition to other indirect inducements to travel. He considered that it was more important to concentrate on fare-reductions.

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According to a survey made by the American Flight Safety Foundation, Inc., for the years 1946 - 1949, 99,999 out of every 100,000 passengers travelling on U.S. scheduled domestic and international routes were carried safely. Of the fatalities which did occur it is estimated that 23 per cent resulted from passengers' inability to escape from the fire which followed impact. A further 13 per cent were lost because of fire in flight. The Foundation is now carrying out intensive research aimed at greatly reducing the incidence of aircraft fires.

An American accident-prevention bulletin draws attention to the danger of simultaneous illness of an airliner's captain and co-pilot through food poisoning, particularly in Far Eastern areas. It recommends that the pilots should separate their eating times by at least 1½ hrs.

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Q.E.A., the Australian State-owned airline which operates the Australia - U.K. route in conjunction with B.O.A.C. will shortly open a booking office in London. B.O.A.C., will continue, however, to act as the official agents in the U.K. and along the route to India.

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Representatives of five governments and of airlines operating in the South Pacific area met in Sydney last week to discuss the introduction of long range ground-to-air R/T systems. The conference was called by the Far East and Pacific office of I.C.A.O; among the subjects discussed were the allocation of frequencies and the language difficulty in international radio-telephony.

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B.O.A.C. will inaugurate a new dollar-earning Stratocruiser service between New York and Nassau (Bahamas) on November 8th. It will operate twice weekly in each direction and will connect at Nassau with the Corporation's Central-Atlantic Constellation services which now fly between Great Britain, the Bahamas, the Caribbean and the west coast of South America. In addition two of the east coast Argonaut services will, from October 31st, be routed via Madrid - the first time that B.O.A.C. has operated between Spain and South American countries.

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The S.O.30 Bretagne, the French medium twin airliner, which is being viewed with interest by several European operators, was recently flown to Geneva for demonstration to Swiss aviation authorities. A further itinerary includes flights to Italy, Spain, Portugal and probably Yugoslavia. The aircraft has just completed 500 hours of freighter operations with the Aero-Cargo company and has now received a C. of A. for the carrying of passengers; a gross weight of 40,800 lb is authorized. This provides a payload of up to 9,450 lb for a stage of 250 miles; 30- and 38-passenger versions are available. A further version of the aircraft, powered by Pratt and Whitney C.A.18s will, when certified, have a maximum a.u.w. of 43,000 lb.

## CORRESPONDENCE

The Editor of FLIGHT does not hold himself responsible for the views here expressed.

### Air Racing as a Spectacle

Several letters have appeared in FLIGHT regarding air racing. One correspondent advocates long-distance racing, similar to pre-war King's Cup events. The writer is not a racing pilot, his usual role being that of an unwilling spectator. It is the spectator, however, who makes our National Air Races pay their way. The general public would derive much greater satisfaction from boundary-type racing, similar to the Goodyear Midget Races in the U.S.A. Pilots taking part in these races are required to fly on a rectangular course, distances between the long-stretch pylons being some 880ft. Needless to mention, considerable skill is required to negotiate the pylon turns, the majority being "vertical". In a race of this type all aircraft would be under constant view throughout the event.

Keresley, Coventry. LEWIS G. COOPER.

### All for £650 a Year

Whilst in sympathy with your correspondents who complain that test pilots receive less than £2,000 per annum for their dangerous and very important work, I wonder if your readers are aware of the salaries that are paid to flying instructors employed by civilian firms under contract to the Air Ministry to train the members of the R.A.F. Volunteer Reserve.

Those of us who undertook this work before the war were paid on an average £650 per annum, with a flying bonus and an added bonus for night flying. Now, in 1950, we are still paid an average of £650 per annum, with no bonuses of any kind and no prospect of increment if we continue for twenty or more years. For this we have to keep fit to pass our Commercial Pilot's medicals twice a year. We have to have a C.F.S. category of, usually, A.1 or A.2 standard. We are liable to be subjected to no fewer than four examinations per annum by the Home Command Examining Flight and to periodical examinations by C.F.S. We have to attend courses to keep au fait with the latest R.A.F. procedure and to bring ourselves to Green Instrument Rating standard. We are expected to do night flying at least once a week and lecturing on our spare evenings. Apart from our flying, which consists of keeping the Reservists' in practice, giving them Instructors' Courses, complete with a comprehensive course of lectures, and flying navigators and signallers in Anson 21s, we double up the roles of Accident Prevention Officer and Officer in charge of Safety and Escape Apparatus.

We have no superannuation in the majority of cases and, as far as I know, nothing beyond workman's compensation if injured at our work and the Health Service if ill for any length of time. We are given the exalted rank of flying officer in the Reserve even if, as in my case, we have been in the V.R. since its inception in 1937.

I hate writing in this depressing strain, because I love my job and would not change it; but I do think that the hardships which are being imposed by the post-war paring of Air Ministry contracts should be known to the public.

Essex. INSTRUCTOR.

### FORTHCOMING EVENTS

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|---|---|
| Oct. 26 | R.Ae.S. Graduates: "Compressor and Turbine Cascades", by J.A. Dunsby, B.Sc., D.I.C., Grad.R.Ae.S. |
| Oct. 31 | Society of Instrument Technology: "Frequency Response and Automatic-control Problems", by A.R. Aikman. |
| Nov. 7 | R.Ae.S.: "Aircraft Metallic Materials at Low Temperatures", by Maj. P.L. Teed, A.R.S.M., M.I.M.M., F.R.Ae.S. (at Belfast). |
| Nov. 8 | R.Ae.S. (Weybridge): Brains Trust. |
| Nov. 8 | Royal United Service Institution: "Aircraft Requirements of the Navy", by Vice-Admiral M.J. Mansergh, C.B., C.B.E. |
| Nov. 8 | Institute of Transport: Anniversary Luncheon. |
| Nov. 9 | R.Ae.S. Graduates: "Work in the High-speed Tunnel", by F.G. Irving, B.Eng., Grad.R.Ae.S. |

## SERVICE AVIATION

### Long-Range Sextet

Last week, six aircraft took off from the Royal Air Force Flying College, Manby, and when they return on November 17th, they will, between them, have covered some 100,000 miles, have crossed 17 countries and spent about 600 hours in the air. These flights are both long-range navigational exercises for officers taking the Flying College course and also liaison missions whereby an opportunity is afforded for interchange of views with other air forces. The R.A.F. Flying College was formed at the beginning of this year by the amalgamation of the previous Empire Schools of Flying, Air Navigation and Air Armament. The Commonwealth function and character of the three original schools has been retained in the College by Commonwealth representation on the instructing staff and among the students.

The first aircraft to leave (at 1000 hr on October 18th) was a Hastings (TG-617) which, with 18 men aboard, including the leader, Group Captain C.G. Lott, C.B.E., D.S.O., D.F.C., slowly lifted from the runway within two or three seconds of its scheduled take-off time, and vanished through the drifting scarves of rain on the first leg of its 26,000-mile round trip. The Hastings is scheduled to reach Darwin on October 23rd, and until November 11th, when it is due to leave Darwin for the homeward flight, will tour bases in Australia and New Zealand.

Later on the same day, October 18th, two Lincolns, RF-362, captained by S/L. R.S. Radley, D.F.C., and RF-380 (S/L. E.W. Tacon, M.V.O., D.S.O., D.F.C., A.F.C., former commanding officer of the King's Flight) started on their journey to Canada via Keflavik and Goose Bay. In addition to visiting Edmonton and Trenton air bases for a few days, the aircraft will visit the National Research Council's low-temperature laboratories and finally return home by different routes.

On October 19th, another Lincoln, RF-358 (S/L. P.A.H. McKeand, D.S.O., D.F.C., A.F.C., U.S. Air Medal) left for Churchill, Alaska, via Keflavik, Thule and Corral Harbour. Its schedule includes a liaison visit to H.Q., Joint Alaskan Command, and to an advanced base at Point Barrow to examine cold-weather operating conditions at first-hand. A 15-hour flight covering 2,500 miles in Arctic circle regions to the vicinity of the North Magnetic Pole is also scheduled.

Piloted by W/C. D.C. McKinley, D.F.C., A.F.C., the well-known ex-Empire Air Armament School Lincoln bomber "Thor II", also left Manby on October 19th to make a non-stop direct crossing of 2,100 miles to Goose Bay. The following day, it was scheduled to fly to Andrews Field, Washington, and has an itinerary of visits to U.S.A.F. and U.S.N. bases before making for home via Bermuda and the Azores.

The last of the Manby aircraft to leave was the Lincolnian - i.e., a Lincoln given Lancastrian treatment - which, carrying on the tradition of its famous predecessor, has been named "Aries". Captained by S/L. J.C.T. Downey, D.F.C., it is scheduled to fly 25,000 miles round the world. The 9,000 miles to Pearce, Perth, were to be covered in three quick hops via Khartoum and Mauritius, so that the journey time totalled no more than 60 hours. Apart from making the journey in so short a time, this aircraft is probably the first landplane scheduled to make the east-west crossing of the Indian Ocean non-stop. After flying from Pearce to Guildford, Perth, and to Laverton and Essendon, near Melbourne, "Aries" will continue round the world 11 days later, leaving for Nandi, Fiji, on November 2nd. It will then depart for Honolulu on November 5th, crossing the date line en route to Hickham Field. On November 8th, it will fly to Hamilton, San Francisco, arriving there the following day. Four days later, it will go on to Kindley, Bermuda, and on November 16th will leave for the flight back to Manby.

Aircrew on the Canadian and Alaskan flights have been equipped with experimental cold-weather flying clothing designed by the R.A.F. Institute of Aviation Medicine. Most of these items have been devised in collaboration with the Canadians, and in many instances, the current trials are extensions of low-temperature clothing tests which have been going on for some time.

Service Aviation...

No R.A.F. Display Next Year

Because of operational training commitments, no R.A.F. Display will be held next year. The Display was revived last July, at Farnborough, after a lapse of 13 years. The 1950 Display was highly successful and attracted crowds of some 200,000 people.

"617" Wins Bombing Trophy

Bad weather caused several postponements of the bombing competition for the Laurence Minot Trophy, which was finally held last Monday at Wainfleet. No. 617 Squadron were the winners and No. 214 were runners-up. The Trophy will be presented to 617 Squadron by the King on November 8th.

Non-Stop From Gibraltar

Four Sea Hornet N.F.21 two-seat night fighters of No. 809 Squadron, Royal Navy, landed at Lee-on-Solent on October 16th after making the first non-stop flight from Gibraltar to the United Kingdom by this type of aircraft. The 3-hr 10-min flight, of approximately 1,040 miles, was made at an average height of 18,000ft and an average speed of 300 m.p.h. Visibility was good apart from occasional cloud at 18,500ft. The flight was led by Lt.Cdr. D.H. Richards, commander of 809 Squadron, which has been exercising with the Home Fleet and was embarked in H.M.S. Vengeance for the outward passage.

Essay Competition Winners

Prize-winners in the 1949-50 Gordon Shepherd Memorial Prize Essay Competition were W/C. A.G.T. James, O.B.E. (£50); S/L. C.T. Nance, M.A. A.F.R.Ae.S., A.M.I.Mech. E. (£30); and S/L C.M. Clementi, O.B.E., (£20). Forty-three entries were received, some from airmen; the subject called for a discussion on methods of increasing R.A.F. efficiency and striking power without increasing its demand on the nation's resources.

For the 1950-51 competition the subject will be: "The rapidly increasing speeds and ranges of aircraft mean that, in a future war, air forces of two or more nations may have to operate in close co-operation, not only strategically, but tactically, from bases separated possibly by thousands of miles. Command, strategy, tactics, mobility, communications, equipment, training, and many other problems are involved. How should an air force be developed and trained to meet these problems successfully?" Essays will be limited to 10,000 words, and the prizes offered will again be £50, £30 and £20.

R.C.A.F. Visit

No. 421 (Red Indian) Fighter Squadron of the Royal Canadian Air Force will visit Britain early next year for several months' operational training. The Squadron is expected to leave its own Vampires in Canada and use R.A.F. machines of the same type during the visit.

Naval M.o.S. Appointment.

Captain D.R.F. Campbell, D.S.C., R.N., has been appointed Deputy Chief Naval Representative at the Ministry of Supply and Director of Naval Aircraft Development and Production (Admiralty). He succeeds Capt. C.W. Byas, who is retiring. Capt. Campbell was, until recently, Captain (Training) on the staff of the Flag Officer (Air) Home. In 1940 and 1941 he served at Boscombe Down as a test pilot and was previously C.O. of No. 803 Squadron.

R.A.F. Appointments

A.V-M. R.S. Blucke, C.B., C.B.E., D.S.O., A.F.C., has been appointed to Air H.Q. Malaya, as Air Officer Commanding. He will be succeeded as Air Officer in Charge of Administration, Far East Air Force, by A.Cdre. H.L. Patch, C.B.E., who assumes the acting rank of air vice-marshal. Both appointments will take effect from January, 1951.

Before becoming A.O.A. with Far East Air Force in May, 1949, A.V-M. Blucke held a similar post with Technical Training Command for over a year. He had previously served in India under Sir Hugh Walmsley. During the war, he was concerned mainly with radar development and bomber operations; he was appointed A.O.C. No. 1 Group, Bomber Command, in February, 1945. A.Cdre. Patch, who is at present attending the 1950 course at the Imperial Defence College, commanded the A. and A.E.E. at Boscombe Down from July, 1948, until last January. Much of his wartime service was with Bomber Command and he also spent two years at the Air Ministry as Director of Armament Requirements.

A.Cdre. G.W. Tuttle, C.B., O.B.E., D.F.C., who was until recently Director of Operational Requirements at the Air Ministry, has been appointed Air Officer in Charge of Administration at H.Q. Coastal Command. Before going to the Air Ministry in 1948, A.Cdre. Tuttle took the 1947 course at the Imperial Defence College and had previously been in command of the R.A.F. in Greece. His wartime appointments included those of S.A.S.O., 18 Group, Coastal Command; commander of No. 328 Wing, N.W.A.A.F.; and air adviser to Admiral Howitt, U.S.N., for the Allied invasion of Southern France.

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